

Case 3246

***Scorpio chilensis* Molina, 1782 (currently *Bothriurus chilensis*; Arachnida, Scorpiones): proposed suppression of the specific name**

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Abstract. The purpose of this application, under Article 81.1 of the Code, is to ensure nomenclatural stability by suppression of the name *Scorpio chilensis* Molina, 1782 (currently *Bothriurus chilensis*). It is impossible to determine the actual scorpion species to which the name *Scorpio chilensis* was originally applied, and Molina's concept probably included more than one taxon. Subsequent authors have applied the name to various different taxa that occur in Chile and other South American countries. Any attempt to fix the name *Scorpio chilensis* to any one taxon would threaten the usage of the names of the well established Chilean species *Bothriurus vittatus* (Guérin Méneville, 1838), *B. coriaceus* Pocock, 1893 and *B. keyserlingii* Pocock, 1893, resulting in nomenclatural instability.

Keywords. Nomenclature; taxonomy; Arachnida; BOTHRIURIDAE; *Bothriurus*; *Bothriurus coriaceus*; *Bothriurus keyserlingii*; *Bothriurus vittatus*; Chile; South America; Scorpiones.

1. The specific name *Scorpio chilensis* (currently included in family BOTHRIURIDAE) was introduced by Abbot Juan Ignacio Molina (1782, p. 347) in a book devoted to the 'geographic, natural and civic history of the Chilean reign'. The original description of the scorpion to which the name was applied was extremely short and without illustrations. It was presented as a footnote (p. 215) and repeated in the systematic account on p. 347 ('*Scorpio pectinibus 16-dentatis, manibus subangulatis*'). Therefore, this is not a case of a nomen nudum, as claimed by Mello-Leitão (1934). No type material is known to exist. It is very clear from the text that *Scorpio chilensis* sensu Molina actually included not less than two species: 'their ordinary colour is dark brown, but under stones of Río Coquimbo yellow scorpions are found as well'. Cekalovic (1983) and Lowe & Fet (2000) mistakenly assumed the type locality to be Coquimbo.

2. The present difficulties arise not only from Molina's work, but also because there has been no subsequent agreement on which scorpion species was to be denoted by that name. Were it the case that all or most authors shared the same concept for *Scorpio chilensis* (regardless of the specimens that Molina had to hand), it would be easy to 'rescue' or fix the name. However, the history of the usage of this name is too complicated to allow this to be the case (see Lowe & Fet, 2000). Below we provide a summary of the confused history of the usage of the name *S. chilensis* to support our application for its suppression.

3. Karsch (1879, p. 136) first assumed the nominal species *S. chilensis* to be included in the genus *Cercophonius* Peters, 1861, but at least part of the material he

studied actually belongs to the species *Bothriurus vittatus* (Guérin Méneville, 1838) and *Phonioecercus pictus* Pocock, 1893. Pocock (1893) described *Bothriurus coriaceus* (p. 95) and *B. keyserlingii* (p. 96), two common central-Chilean species. Although these species have themselves at times been confused (see Lowe & Fet, 2000, who still list *B. keyserlingii* as junior synonym of *B. coriaceus*), their taxonomic identities are now well established (Mattoni & Acosta, unpublished). The same applies to *B. vittatus* which has recently been revised by Mattoni (2002).

4. Kraepelin (1894, p. 232) transferred *S. chilensis* to the genus *Bothriurus* Peters, 1861, and this generic allocation has hitherto been maintained. No fewer than three *Bothriurus* species are included in Kraepelin's concept of *B. chilensis*. In addition, Kraepelin (1894) has synonymised the Brazilian scorpion *B. signatus* Pocock, 1893 with *B. chilensis*. This gives a very wide range for Kraepelin's nominal taxon *B. chilensis*; it includes Chile, Peru, Argentina and Brazil. Pocock (1900, p. 478) noted the inadequacy of Molina's description and of Kraepelin's interpretation. We agree with his statement that 'the name *Scorpio chilensis* of Molina may have been founded upon a species of *Hadruroides*, or *Caraboctonus*, or *Bothriurus*, or, indeed, upon almost any of the species of Bothriuridae or Vaejovidae that occur in Chile. The fact that Karsch identified a particular species as probably referable to the *Scorpio chilensis* of Molina has little or no value in settling what *chilensis* really is'.

5. Several subsequent authors dealt with *S. chilensis*, with almost no agreement on the taxonomic concept involved. Borelli (1899, 1900, 1901) maintained Kraepelin's confusion. In 1899 (p. 6) he mentioned a female *B. chilensis* from Buenos Aires, most probably belonging to *B. bonariensis* (C.L. Koch, 1836). In 1900 (p. 3), he mentioned specimens from Valparaíso (which actually comprised *B. keyserlingii* and *B. coriaceus*), as well as material from Temuco. A specimen from Temuco was used by Mello-Leitão (1934) as the type specimen of his species *Bothriurus borellianus* Mello-Leitão, 1934. Finally, Borelli (1901, p. 11) reported specimens of *B. chilensis* from Uruguay (La Sierra) and Argentina (San Luis, Villa Holga, Cacheuta, Misioneras and Río Santa Cruz), the last three belonging to the '*Bothriurus patagonicus* species-group', according to Maury (unpublished). Penther (1913, p. 252) further recorded *B. chilensis* from Brazil (Río Grande do Sul, Blumenau), Ecuador, Argentina (Mendoza, Potrerillos, San Juan de Perico) and Chile (Juncal).

6. Mello-Leitão (1933, p. 20) referred to *B. chilensis* material from Cuchilloco, province of La Pampa (Argentina) and described specimens from Laferrère and 'Sierras Bajas'. On p. 34 he gives the species range as Chile, Argentina, Peru, Ecuador, Rio Grande do Sul and Santa Catarina. In 1934 (p. 85), Mello-Leitão discussed the descriptions of Karsch, Borelli and Guérin Méneville (as *B. vittatus*), mistakenly suggesting that *S. chilensis* should be rejected as a nomen nudum. He then assigned to the nominal taxa *B. karschii* Mello-Leitão, 1934, *B. borellianus* and *B. vittatus* the material examined by Karsch (1879), Borelli (1900) and Guérin Méneville (1838) respectively. Mello-Leitão (1934) also described as *B. prospicius* Mello-Leitão, 1934 those specimens previously identified by him in 1933 as *B. chilensis*. In his 1945 monograph, Mello-Leitão again changed his mind and redescribed *B. chilensis* from material collected in Santiago, remarking that the specimens had 'dilated hand, fingers forming with hand an obtuse inferior angle' and that 'this feature was well emphasized by Molina in his very brief diagnosis: . . . *manibus subangulatis*'. We have examined these specimens and they belong to the nominal species *B. coriaceus*.

7. Werner (1934, p. 291) studied Chilean materials from Victoria (Malleco) and Coronel (Concepción), both actually *B. vittatus* (examined by us). Bücherl (1959, p. 31) re-examined specimens identified by Mello-Leitão as *B. chilensis*, concluding that *B. keyserlingii* is a junior synonym of the former. Bücherl stated in 1963 (p. 197) that '*B. coriaceus*, *B. keyserlingii* and *B. chilensis* are today three unidentifiable species'. He referred to material held in the Museu Nacional (Rio de Janeiro) that had been determined as *B. chilensis* and corrected the identification to *B. coriaceus*.

8. In his catalogue of the genus *Bothriurus*, Maury (1981) listed *B. chilensis*, summarizing the long controversy around the species but without suggesting any action. The most recent catalogues (Cekalovic, 1983, p. 46; Lowe & Fet, 2000, p. 29) still list *B. chilensis* as the valid name of a supposed widespread taxon from Argentina, Chile and Ecuador (and possibly Brazil).

9. As paras. 3–8 above show, there is no agreement as to which taxon the name *Scorpio chilensis* Molina, 1782 represented at the time of its first description. Authors have assigned the name to at least seven different species that occur in Chile (*B. vittatus*, *B. keyserlingii*, *B. coriaceus*, *Phoniocercus pictus*), Argentina (*B. bonariensis*, *B. prospicuus*) and Brazil (*B. signatus*). Assuming that the name *S. chilensis* is really to be referred to the genus *Bothriurus*, we should seek among central Chilean species to determine what Molina described. The main candidates are *B. vittatus*, *B. coriaceus* and *B. keyserlingii*. Not only are the original descriptions of these well established species much better than that for *S. chilensis*, but all three still have existing type specimens, preserved in the The Natural History Museum, London (*B. coriaceus*, *B. keyserlingii*) and in the Muséum National d'Histoire Naturelle, Paris (*B. vittatus*). It should be noted that *Buthus vittatus* (currently *Bothriurus vittatus*) was placed on the Official List of Specific Names in Zoology, and declared not to be invalid despite its being a junior primary homonym of *Buthus vittatus* Say, 1821 (Opinion 1680, BZN 49: 163). The few diagnostic characters given by Molina (1782) proved to be useless. For example, the pectinal teeth count of *Scorpio chilensis* fits equally in the known range of all three mentioned *Bothriurus* (*B. vittatus* 12–20, *B. coriaceus* 12–22, *B. keyserlingii* 12–20; all with mean values around 16; Mattoni, in press; Mattoni & Acosta, unpublished). Any attempt to fix the identity of *Scorpio chilensis* will result in an arbitrary decision, and will threaten the nomenclatural stability of this group of scorpions.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the name *chilensis*, Molina, 1782, as published in the binomen *Scorpio chilensis*, for the purposes of the Principle of Priority but not for those of the the Principle of Homonymy;
- (2) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *chilensis*, Molina, 1782, as published in the binomen *Scorpio chilensis* and as suppressed in (1) above.

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